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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,880

04/21/2006

Yoon-Seob Eom

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EXAMINER

RAHIM, AZIM

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

03/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,880	Applicant(s) EOM ET AL.	
	Examiner AZIM RAHIM	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/5/2009 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Wollaber et al. (US 5,335,721).

Regarding claim 1, Wollaber et al. teach an air conditioner (figs. 1-3) comprising: a case (8) of which one side is positioned at an indoor side (side adjacent to indoor heat exchanger 36) and another side is positioned at an outdoor side (side adjacent to outdoor heat exchanger 50); an indoor heat exchanger (36) mounted inside the case (illustrated in figure 3) positioned at the indoor side (illustrated in figure 3) thus to be heat-exchanged with the indoor air (46); an indoor

Art Unit: 3744

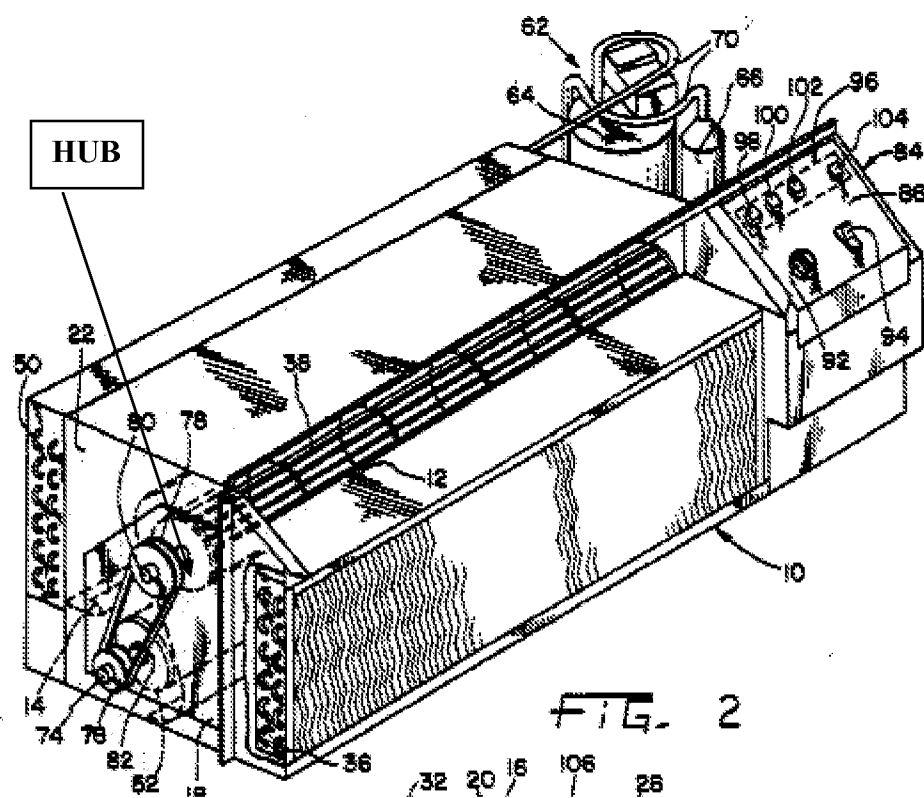
centrifugal fan (38) opposite to the indoor heat exchanger (illustrated in figure 3) for generating a blowing force so that the indoor air can pass through the indoor heat exchanger (the indoor heat exchanger is capable of performing this intended use function); an outdoor heat exchanger (50) mounted inside the case (illustrated in figure 3) positioned at the outdoor side (illustrated in figure 3) thus to be heat-exchanged with the outdoor air (54); and an outdoor centrifugal fan (52) opposite to the outdoor heat exchanger (illustrated in figure 3) that generates a centrifugal force to blow the outdoor air [this intended use limitation is capable of being performed by the outdoor centrifugal fan], wherein the outdoor centrifugal fan comprises: a hub (annotated below) formed in a disc shape (illustrated in figures 1-3) connected to a driving motor (72) by a rotational shaft (74); a plurality of blades (annotated below) each having one end protruding from a surface of the hub (illustrate in figure 3) and disposed at the outer side of the hub in a circumferential direction (illustrated in figure 3) with the same interval therebetween (illustrated in figure 3); and a supporting ring (the ring as annotated below) coupled to another end of each of the plurality of blades to support the blades [as illustrated in figure 3, portions of the ring are disposed in a vicinity between the blades]. It is noted that the Applicant has not specified the boundaries of the indoor side and the outdoor side.

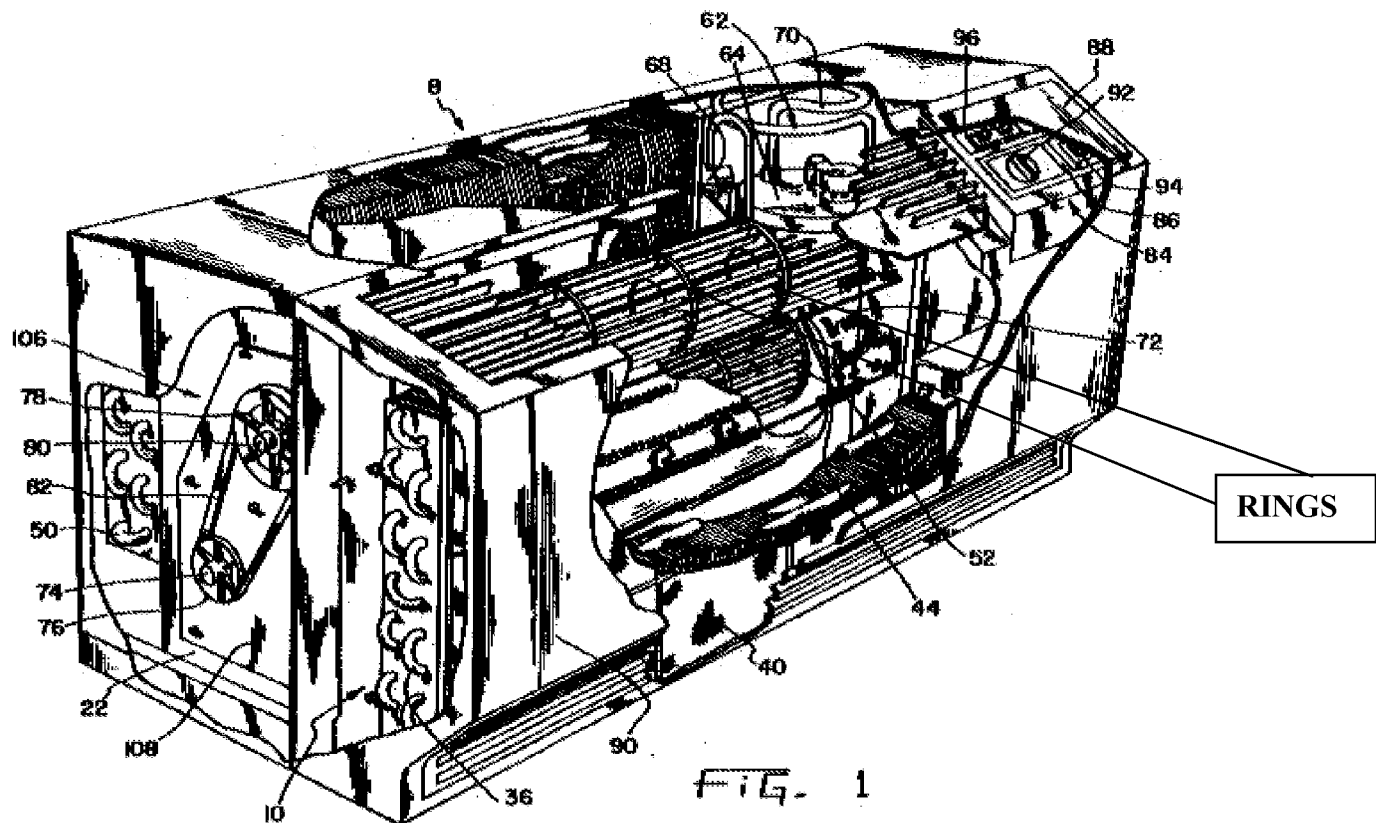
Regarding claim 2, Kang et al. teach the limitation of an outdoor air suction port (area where outdoor air 54 enters the air conditioner) being respectively formed at both lateral surfaces of the case (as illustrated in figure 3, since the outdoor suction port has a surface area, it is disposed at “lateral sides” of the case) positioned at the outdoor side (illustrated in figure 3), and

Art Unit: 3744

an outdoor air discharge port (34) is formed at the rear surface of the case (illustrated in figure 3).

Art Unit: 3744





Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

Art Unit: 3744

3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1 and 3 are rejected under 35 U.S.C. 103(A) as being unpatentable over Laing (US 3,404,539) in view of Wollaber et al.

Regarding claim 1, Laing teaches an air conditioner (figs. 1-2) comprising: a case (1) of which one side is positioned at an indoor side (side adjacent to indoor heat exchangers 13 and 14) and another side is positioned at an outdoor side (side adjacent to outdoor heat exchanger 3); an indoor heat exchanger (13 and 14) mounted inside the case (illustrated in figure 1) positioned at the indoor side (illustrated in figure 1) thus to be heat-exchanged with the indoor air (illustrated in figure 1); an indoor centrifugal fan (12) opposite to the indoor heat exchanger (illustrated in figure 1) for generating a blowing force so that the indoor air can pass through the indoor heat exchanger (the indoor heat exchanger is capable of performing this intended use function); an outdoor heat exchanger (35) mounted inside the case (illustrated in figure 1) positioned at the outdoor side (illustrated in figure 1) thus to be heat-exchanged with the outdoor air (illustrated in figure 1); and an outdoor centrifugal fan (36) opposite to the outdoor heat exchanger (illustrated in figure 1) that generates a centrifugal force to blow the outdoor air [this intended use limitation is capable of being performed by the outdoor centrifugal fan], wherein the outdoor centrifugal fan comprises: a hub (annotated below) formed in a disc shape (illustrated in figure 3) connected to a driving motor (53) by a rotational shaft (annotated below); a plurality of blades (annotated below) each having one end protruding from a surface of the hub (illustrate in figure 3) and disposed at the outer side of the hub in a circumferential direction

Art Unit: 3744

(illustrated in figure 3) with the same interval therebetween (illustrated in figure 3); It is noted that the Applicant has not specified the boundaries of the indoor side and the outdoor side.

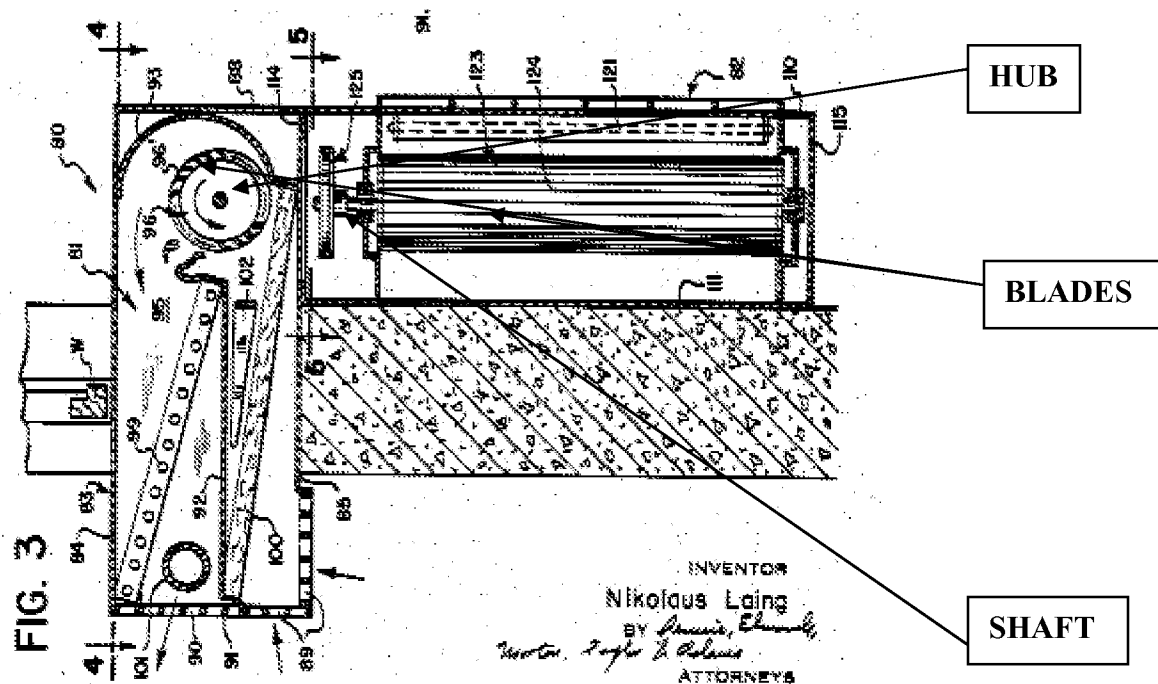
Laing fails to explicitly teach a supporting ring coupled to another end of each of the plurality of blades to support the blades.

Wollaber et al. teach an air conditioner [illustrated in figures 1-3] comprising a blower (52) that includes blades [annotated above] that are supported by rings [annotated above].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the air conditioner of Laing to include the rings as taught by Wollaber et al. in order to prevent the fan from deforming or bending during operation of the air conditioner, thus minimizing noise and vibration.

Regarding claim 3, Laing teaches the limitation of the outdoor fan being installed in a shroud (33) mounted inside the case positioned at the indoor side (illustrated in figure 1), and the shroud is provided with an air guide (top portion of 33) that guides air blown from the outdoor centrifugal fan to the outdoor heat exchanger [illustrated in figure 1].

Art Unit: 3744



6. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wollaber et al. as applied to claim 1 above and further in view of Kang et al. (US 2001/0035021).

Regarding claims 5-8, Wollaber et al. teach all the limitations of the claimed invention, but fail to explicitly teach a condensing water dispersing unit mounted at the outdoor centrifugal fan for dispersing condensing water collected at the lower surface of the case to the outdoor heat exchanger the condensing water dispersing unit being composed of a dispersion ring connected to the outdoor fan thus to be rotated together for dispersing the condensing water, wherein the dispersion ring is connected to a hub of the outdoor centrifugal fan by a supporting ring, and wherein the dispersing ring is respectively connected to the blades of the outdoor centrifugal fan by the supporting ring thus to form a ring shape.

Art Unit: 3744

Kang et al. does teach and a condensing water dispersing unit [0068 lines 18-23] mounted at the outdoor centrifugal fan for dispersing condensing water collected at the lower surface of the case to the outdoor heat exchanger [0068 lines 18-23], a supporting ring (72) being connected to the outdoor fan (70) thus to be rotated together for dispersing the condensing water [0068 lines 18-23], wherein the dispersion ring is connected to a hub (center portion of fan 70) of the outdoor fan.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the air conditioner of Wollaber et al. to include the condensation dispersion unit as taught by Kang et al. in order to prevent insects and bacteria from building up inside of the air conditioner, thus preventing a user form being contaminated.

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have added a dispersion ring as taught by Kang et al. to the outdoor centrifugal fan of Wollaber et al., as a matter of obvious duplication of parts in order to provide added support to the blades, thus extending the life of the fan.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3 and 5-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIM RAHIM whose telephone number is (571) 270-1998. The

Art Unit: 3744

examiner can normally be reached on Monday - Thursday 7am - 3pm EST and Friday 7am - 9:30am EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681 or Cheryl Tyler at 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. R./

Examiner, Art Unit 3744

3/10/2009

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744